December 2002

Extended Visions November-December 2002

November/December 2002

IANR Extended Visions

A publication of the University of Nebraska Agricultural Research & Development Center and University of Nebraska Cooperative Extension in Saunders County

Vol. 6, No. 6

ARDC Director's Comments

What's Happening at the ARDC

by Daniel J. Duncan, ARDC Director

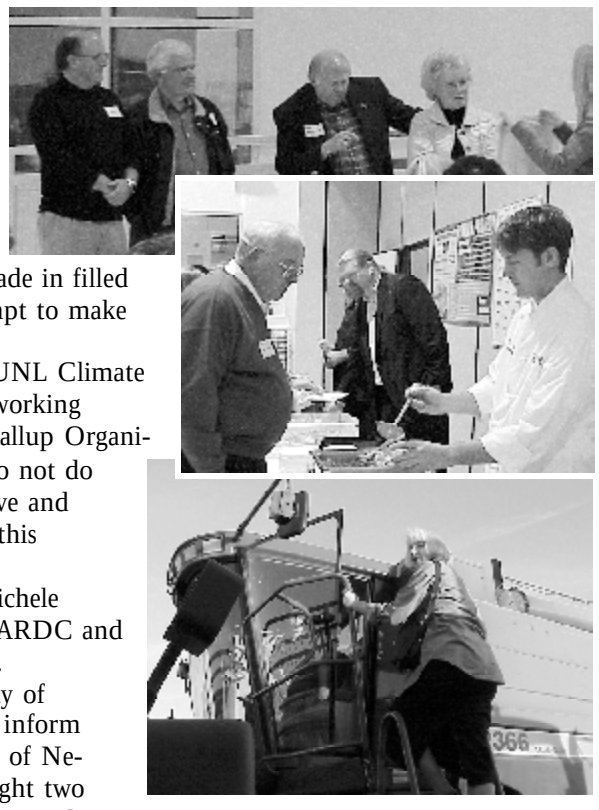
There are several things I would like to highlight in this addition. First, I want to congratulate our finalists for ARDC Employee of the Year. The finalists are Caryl Carstensen with the Swine Research Area, Ed Booth with Facilities Operations, and Doug Gustafson with Farm Operations. Doug was named "ARDC Employee of the Year!" I would like to congratulate Doug, Ed and Caryl for their fine work at the ARDC in support of our research and outreach efforts. The ARDC Employee of the Year is a new award created by the ARDC Social and Benefits Committee. Employees with permanent assignments at the ARDC nominate and vote on their peers for this award. Congratulations to all for making this process successful!!!

As you know, the University of Nebraska continues to make changes to address budget shortfalls. While the ARDC was not directly affected in the past round of reductions, many people at the ARDC will be indirectly affected. Business Operations and Facilities Management at the ARDC are some of the areas impacted. Changes will be made in filled and unfilled personnel lines to assist our IANR peers and attempt to make the implementation of the reductions manageable.

On the positive side, I am excited about the potential the UNL Climate Survey and subsequent discussions will have in improving the working climate for all employees. This survey was developed by the Gallup Organization and is a way to identify what we do well and what we do not do well to create a working environment that is respectful, inclusive and meets individual and organizational needs. I am positive that this process will yield measurable positive outcomes.

I want to end by thanking Chancellor Harvey Perlman, Michele Waite and Dean Marjorie Kostelnick for spending time at the ARDC and the Mead Agricultural Sciences High School on September 24.

On October 14, President Smith held his annual University of Nebraska Press Picnic at the ARDC. This event is designed to inform the media about the exciting happenings on all four University of Nebraska campuses. We were thrilled that we were able to highlight two projects that involve the ARDC. First, we made an announcement that Entomology 115 will be made available this spring, on a pilot basis, as a dual credit class (students can take the class for High School or UNL credit!) available to the four Ag Sciences Magnet Schools. Secondly, we were able to discuss research we are conducting to determine the feasibility of growing fresh water giant prawns in Nebraska. We greatly appreciate both Chancellor Perlman's and President Smith's interest in the ARDC and their confidence in our ability to host major events!!! □



Pictured above: Media representatives participated in a trivia contest to learn more about the University. Amongst the contestants were Zean and Marilyn Carney of Wahoo. NU President L. Dennis Smith samples prawns raised at the ARDC. Martha Stoddard of the Lincoln Journal Star climbs aboard a combine to learn about current farming technology.

ARDC FEATURE — DAIRY

Use of Wet Corn Gluten for Dairy Cows

by Rick Grant, UNL Animal Science Department

Wet corn gluten feed is a readily available fibrous byproduct of corn wet milling that is primarily a mixture of corn bran and fermented corn extractives (commonly called steep liquor). Even though it is high in fiber, the fiber is highly digestible and so corn gluten feed can be an economical source of energy to the lactating dairy cow. We know that feeding too much starchy grains (like corn or sorghum) can lead to low rumen pH (called acidosis), health disorders, and low milk production in dairy cows. Replacing a substantial part of the grain with fiber from corn gluten feed can result in greater energy consumption, and less risk of health problems for the cow. One limitation to feeding wet corn gluten feed is its low content of protein that in not degraded in the rumen. Farmers and nutritionists refer to this protein as "escape protein". By adding more escape protein to wet corn gluten feed, we were able to feed much more of the byproduct to dairy cows.

In one study, we wanted to determine how much dietary grain could be replaced by the byproduct. We were able to successfully replace 100% of the corn and soybean meal in the diet! In a second study, we

DAIRY - Continued on P. 2

Dan Duncan (left) presented Doug Gustafson with the award.

Ed Booth, Doug Gustafson, and Caryl Carstensen were nominated by fellow employees as candidates for the ARDC Employee of the Year award.

Gustafson Selected as Employee of the Year

For the first time ever, the ARDC selected a recipient to receive the Employee of the Year award. The award is sponsored by the ARDC/ Saunders County Extension Social Committee. The candidates were nominated by fellow employees and scoring forms were then submitted by supervisors, employees and the social committee.

Doug Gustafson, supervisor of the Farm Operations unit, was selected by fellow employees to receive the ARDC Employee of the Year award. Also recognized were the two other nominees, Caryl Carstensen of the Swine Research Area and Ed Booth of Facilities Operations.

Nominations submitted for Gustafson stated: he is always positive and sets a high standard for others to follow; always gets the job done and takes pride in his work and encourages his employees to do the same; is a great asset to not only the farm operations, but also the ARDC and contributes in some way to all projects with the farm crew and many outside of the operation; is wise with wisdom and knows how to treat people with respect; will never tell another employee to do a job that he wouldn't do himself; and is not only a great employee, but a great person as well.

In addition to receiving a plaque, Gustafson was also honored with prizes solicited and organized by the Social Committee. This includes: passes to the Champions Club; $100 courtesy of Cedar Ridge Spraying Service, Lindy Glass & Precision Crop Consulting; Henry Doorly Zoo tickets; golfing at the Hilltop Country Club at Wahoo; $25 Gift Certificate to Todd Valley Farms; and recognition on a plaque to be displayed indefinitely at the ARDC Research and Education Building.

Gustafson lives near Ithaca, with his wife, Janice. They have three daughters and eight grandchildren. □

In This Issue...

ARDC FEATURE DAIRY

DAIRY - Continued from Page 1

started with the 100% grain replacement diet and were then able to replace up to 45% of the dietary forage. So, in total, we fed our dairy cows diets that contained close to 70% wet corn gluten feed product. It looked a lot like a feedlot diet. Subsequent research has led us to determine that somewhere around 40% of the diet is optimal for corn gluten feed. If you realize that the typical amount of byproduct fed has been about 15 to 20%, you can see that we've proven that twice as much can be successfully fed. In fact, cows fed the 40% wet corn gluten feed diet outperformed cows fed a traditional diet based on 50% alfalfa and corn silage plus corn and soybean meal. We have fed 40% wet corn gluten feed to our research herd at Mead for nearly three years now, and production and herd health have never been better. □

About the People

Erin Marotz

Gene Anderson

Ken Cejka

Darren Strizek

Leo Sweet

Erin Marotz serves as the dairy research area manager. Erin has been with the University for nearly ten years. His job is to oversee all daily activities at the dairy. This includes all animal and equipment concerns, as well as personnel supervision. He also helps coordinate the research projects for efficient performance and compliance to protocol. Erin lives near the dairy unit with his wife, Nancy and their two children, Tyler and Morgan.

Gene Anderson has been employed at the dairy for six years. Gene is an Ag Research Tech I and his duties include both feeding the milking herd, as well as replacement heifers. He also cares for the cows on nutrition research trials in the nutrition barn. In addition, Gene does the machinery maintenance. Gene lives near Memphis with his wife, Rhonda, and children Wyatt, Chance and Zane.

Ken Cejka is a ten-year veteran of the dairy research area. Ken is an Ag Research Tech I and recently changed positions from a milker to feeding duties and manure management. Ken lives in Weston with his wife, Cherrie and stepdaughter, Emma.

Darren Strizek has been with the dairy for twelve years. Darren is an Ag Research Tech II and cares for the replacement heifers. He, also, performs the feeding and data collecting during research trials in the nutrition barn. Darren lives near Ceresco with his wife Janice, and children, Reed and Cole.

Leo Sweet has been employed at the dairy for nearly ten years as a Ag Research Tech I. His main responsibilities are milking the herd and milking system maintenance. Leo lives in Mead with his wife, Linda.

Two new employees have joined the dairy research area. Kelsey Rhynalds is currently the night milker. He milks the herd at 7:00 p.m. and his other duties include parlor sanitation and cleaning the nutrition barn. He and his wife, Becky, and daughter, Ashley, reside in Lincoln.

Dustin Jurgensen of Ashland is also one of the newest employees at the Dairy research area. He serves as a milker and covers both day and evening milking duties. □

Dustin Jurgensen

Kelsey Rhynalds

Learn more about dairy research at: http://animalscience.unl.edu/dairy/Dairy.htm

Conducting Dairy Research

Graduate students play an important role in conducting research. The following is a list of students currently performing dairy research. Amanda Sparks-Oliver is working on a PhD in Dairy Nutrition and comes from Oklahoma State University. Her research topic is evaluating brown midrib forage and grain sorghum hybrids. Sarah Ivan is working on her MS in Dairy Nutrition and comes from Ohio State University. Her research topic is comparison of corn silage hybrids bred for high fiber digestibility. Bill Matzke is working on his MS in Dairy Nutrition and is a native of Seward, NE with a BS from UNL. His research topic is the effect of facilities on cow behavior and well-being. Bill also is instrumental in the Dairy Program at Northeast Community College. Shaker Al-Suwaiegh is working on his PhD in Dairy Nutrition and comes from Saudi Arabia. His research topic is protection of the lipid in oilseeds to produce designer milk products which are more healthy for consumers. Bruce DeGroot is working on his PhD in Dairy Breeding and Genetics and comes from Northwestern College in Iowa. His research topic is modeling lactation curves for cows with or without bovine somatotropin. Rami Sawalha is a Fulbright Fellow working on his PhD in Dairy Breeding and Genetics and comes from Palestine. His research topic is the economic effects of using bovine somatotropin. Makram Geha is a visiting Fulbright Fellow from Lebanon. He is researching the reasons for disposal of cows that have been administered bovine somatotropin or not. □

Graduate student Sarah Ivan collects a sample from the rumen of a fistulated Holstein.

Selection in Holsteins

by Bruce DeGroot, Jeffrey F. Keown, and Erin Marotz, UNL Animal Science Department

Milk production per cow has increased in U.S. dairy herds because of genetic progress made in yield traits over many years of selection and improved management practices. In a previous study, average milk production per cow increased by 660 pounds per cow from 1960 to 1990. Top producing U.S. Holstein herds that are eligible for genetic evaluations averaged 21,450 pounds of milk, 770 pounds of fat, and 682 pounds of protein in 2000. Some of the highest producing cows have produced up to 67,760 pounds of milk.

The heavy emphasis on selection for yield may have a negative effect on non-yields traits that could contribute to the cow's overall fitness. These traits are associated with body frame, feet, legs, udder and teats. Many artificial insemination and breed organizations maintain linear classification programs to measure these traits. The information gathered is used to select for profitable and functional cows. Recent studies have identified some linear type traits that are important for cows to produce high levels of milk over multiple locations.

Final score is a linear type trait that represents weighted overall score for all measured conformation traits. Previous studies have found only small relationships between final score and milk yield, thus selection for final score may not have much effect on milk yield. However, selection on final score may result in changes in individual linear type traits and somatic cell scores (SCS).

The objectives of this study were to estimate genetic parameters and measure response of yield and linear type traits and SCS. Estimates of genetic correlations between yield traits were estimated. Final score had low estimates of 0.01, -018 and 0.06 with milk, fat and protein yields respectively. Final score had a large negative genetic correlation with SCS. Final score had genetic correlation estimates with the udder traits that ranged from 0.66 to 0.88. Fore udder attachment, udder cleft and udder depth had negative estimates of genetic correlation with milk yield, whereas rear udder height and rear udder width had small positive estimates with milk yield. SCS had negative estimates of genetic correlation between the udder traits. Selection for final score would have a positive effect on udder traits as indicated by estimates of genetic correlations and correlated responses. The yield traits would have little effect in response to selection for final score. The genetic correlations between final score would suggest that selection for increased final score could decrease SCS. Divergent selection on PTAT of sires did have an influence on udder traits and SCS with little or no effect on body and yield traits. □

Facility Improvements

by Erin Marotz, UNL Animal Science Department

Construction of a new office/working area for the nutrition barn is under way. This new addition will provide an area for the graduate students that are working on trials to better organize their equipment and perform their data collection. It will provide for sample storage with a refrigerator/freezer and cabinets. A sink and storage shelves will also be a useful addition. The area will serve as an office and observation room for visitors. as well. Completion should be done by mid-November.

A new technology will soon be added to the milking parlor. Automatic cow identification and cow activity meters will enable the cows to automatically be identified as they enter the milking parlor. This will decrease milking time and eliminate human error in cow identification. All milk weights, milking times, and milk conductivity are then automatically downloaded to the computer for management and research use.

The cow activity meter will measure cow movement, which is critical in determining estrus and cow health. This information will be downloaded into the computer at milking time. The technology is the most advanced available and will be installed in October.

A new 30'x100' heifer working facility and maternity barn will be constructed in the spring of 2003. This will replace the current forty-year-old barn and will improve worker efficiency and animal comfort. □

Upcoming Educational Opportunities

NEBRASKA SOYBEAN DAY & MACHINERY EXPO

Plan to attend & bring a friend!

Friday, December 13 * 8:30 a.m. - 2:30 p.m.
Saunders County Fairgrounds in Wahoo

Nebraska soybean producers who are interested in learning about this year's outcomes and ideas for next year won't want to miss this event. Top-notch speakers will provide helpful insight and tips. Reports will be given by the Nebraska Soybean Board. Agribusinesses will be on hand to display their latest wares and you can take a look at equipment - all in the warmth of the heated pavillion. Free lunch will be served at noon. The free event is sponsored by the Saunders County Growers Organization, the Nebraska Soybean Board, private industry representatives, and Cooperative Extension, a division of NU's Institute of Agriculture and Natural Resources. □

Looking for CCA Credits? We've Got You Covered!

If you are in need of CCA credits or want to expand your knowledge base - several upcoming educational opportunities may be of interest to you. The workshops provide intensive, detailed instruction. They are taught by University and industry specialists. There is a fee for each program, but if you consider the potential gains from the programs, it will be well worth it. (Take a look at the results from our summer programs in this edition to get an idea of the impact our programs have on participants.)

The Annual Research Symposium for agribusiness professionals and others seeking continuing education credits will be held on **Tuesday, November 19**. The symposium is co-sponsored by the Nebraska Agri-Business Association in cooperation with the University of Nebraska Cooperative Extension and the Department of Agronomy and Horticulture, both are divisions of NU's Institute of Agriculture and Natural Resources. Additional financial sponsorship is provided by Midwest Laboratories Inc., Bayer, BASF and Monsanto.

A satellite feed will be broadcast across the state. Host sites include: NU Panhandle Research and Extension Center (PHREC) in Scottsbluff, the NU West Central Research and Extension Center (WCREC) in North Platte, the Lifelong Learning Center in Norfolk, College Park in Grand Island, and at the ARDC.

A total of 5 hours of CCA CEU Credits will be applied for at each location. The program begins at 8:30 a.m. CST (7:30 a.m. MST). Registration fees are $80 for NeABA Members & Nebraska CCAs and $95 for non-members and out of state registrants. Fees include resource materials, refreshments and lunch.

Register online at http://www.na-ba.com/events.htm. Or contact the Nebraska Agri-Business Association, Inc., 1111 Lincoln Mall, Suite 308, Lincoln, NE 68508-2882 Phone (402) 476-1528; fax (402) 476-1259; e-mail info@na-ba-com.

The INTEGRATED CROP MANAGEMENT WINTER PROGRAMS will kick off on December 5 with a workshop on Irrigation - Soil and Water Management at the Lifelong Learning Center in Norfolk. A 2-day Crop Pest Management workshop will be held on East Campus in Lincoln on December 17 and 18. A Basic Soil workshop will also be held on campus on December 19. Please call or e-mail for pricing, CCA credit info and other workshop information at (402)624-8030 or kglewen1@unl.edu. □

ARDC FEATURE
DAIRY

Brown Midrib Forage Sorghum Makes Milk

by Rick Grant, UNL Animal Science Department

During the past several years, we have established that brown midrib forage sorghums result in greater feed intake and milk production than normal forage sorghum hybrids. In fact we have observed close to a 20% increase in milk production for cows fed brown midrib sorghum versus the normal hybrids. Brown midrib sorghum contains less lignin than normal sorghum, and so it is more digestible and provides more energy to the cow for milk production. A good way to think about lignin is as a "plant plastic" that protects the forage fiber from digestion by the cow. The less lignin, the more digestible the plant. In several trials, the brown midrib forage sorghum has resulted in milk production similar to commonly used dual-purpose corn silage hybrids. So, from a nutritional standpoint, feeding brown midrib forage sorghums to dairy cattle makes great sense. One agronomic limitation, however, is the greater potential for the brown midrib hybrids to lodge which makes it harder to harvest. Companies are currently working on developing new hybrids and better defining growing conditions to minimize this problem.

Sorghum is agronomically suited to this part of the country with drier conditions because sorghum requires less water, less fertilization, and can withstand drought better than most hybrids of corn.

A current question that we are working on is: are there differences among different hybrids of brown midrib forage sorghum? We have begun a series of studies aimed at determining which hybrids give the best response in milk production, feed intake, and digestibility. Another question we will be looking at over the next several years is: what are the differences between brown midrib grain and forage sorghum hybrids? Grain sorghum hybrids would be less prone to lodging, and if we can make them more digestible by the brown midrib trait, then this ought to be ideal silage for a dairy farmer. □

Calendar of Events

NOVEMBER		
6	Administration Team Meeting	9:30-11:30
8	Saunders County Health Services	8:00-4:00
8	Farm Program Options	10:00-12:00
8	NE Agribusiness Meeting	9:00-3:00
11	Safety Committee Meeting	1:00-2:00
14	Prawn Team Meeting	1:00-3:00
18	Saunders Co.Extension Board	7:00-10:00pm
19	AIM Thanksgiving Supper	6:30-8:00pm
19	Research Symposium	8:00-5:00
20	Unit Managers Meeting/Safety Talk	12:00-3:00
21/22	ARDC Gallup Meeting	8:30-1:00
DECEMBER		
3	LEAD Dinner and Meeting	6:00-10:00pm
3	Bankers Training	9:00-4:00
4	Administration Team Meeting	9:30-11:30
9	Safety Committee Meeting	1:00-2:00
11	Unit Managers Meeting	1:00-3:00
13	Soybean Day and Machinery Expo - Saunders Co. Fairgrounds - Wahoo	8:00-4:00
JANUARY		
1	Administration Team Meeting	9:30-11:00
8	Ag Risk Management Meeting	8:30-4:00
6	Safety Committee Meeting	1:00-2:00
8	Unit Managers Meeting	1:00-3:00
9	Precision Ag Tour	11:00-3:00
9	Market Journal	8:00-9:00pm

Youth Learn About Ag

Approximately 750 students from twelve schools from Omaha, Yutan, and Millard attended the Ag Awareness Festival at the ARDC this fall. The event is coordinated by the Ag Awareness Coalition - a group of agricultural professionals representing business, commodity groups, and the University. The youth learned about beef, grains, dairy, swine and horses. The students participated in interactive presentations, sample various foods made from ag products, and were treated to ice cream courtesy of Blue Bunny and flavored milk from Roberts Dairy. □

The dairy calf at the Ag Awareness Festival was lavished with attention by the youth.

Several members of the Ag Awareness Coalition also provided an educational booth at the 4-H Discovery Center at the state fair. Lance Brown, NU Extension Educator discusses ag products with students.

Entomology Course Will Offer Dual Credit at Four High Schools

UNL will offer an entomology course via distance education at four high schools next spring, allowing students to earn high school and college credits at the same time. The pilot project is part of a national and state "seamless education" emphasis that seeks to ease students' transition from high school to college, said Tiffany Heng-Moss, assistant professor of entomology in UNL's College of Agricultural Sciences and Natural Resources.

Insect Biology, which will be taught from the UNL campus and offered with various distance education technologies at Mead, Laurel-Concord, Nebraska City and Burwell high schools, will be available for high school credit, college credit or both. The course, which will count toward the Essential Studies-Science and Technology requirement for most of UNL's colleges, will be taught by Heng-Moss and Connie Reimers-Hild, distance education coordinator for the entomology department.

The new dual-credit offering has advantages for the high schools, students and UNL. The course will offer high schools another science course, which helps them meet national and state science-curriculum standards without having to spend new resources. High school students get a head start on their college careers amid familiar surroundings, improving their chances of graduating in four years.

This move also reflects UNL's continued interest in distance education, even as it rethinks how it offers such learning amid tightening budgets. "We're still reaching out to communities in different ways despite budget cuts," Reimers-Hild said.

"What this class really represents is a start at making university curriculum available in every school and community in Nebraska," said Dan Duncan, director of the university's Agricultural Research and Development Center near Mead.

The dual-credit course is a natural progression in the agricultural sciences curriculum ARDC and other Institute of Agriculture and Natural Resources faculty and staff helped launch, first at Mead High School several years ago, and then at the other three schools this fall, Duncan said. It also addresses concerns raised last year by the National Commission on the High School Senior Year, which said that increased cooperation between secondary and higher education is essential in today's economy.

Heng-Moss, Reimers-Hild, CASNR professor Arlen Etling and others will evaluate the program after the spring semester, with plans to expand Insect Biology to other high schools. "This is only the first course in a series of many we expect to offer" for dual credit at high schools, Reimers-Hild said.

UNL is seeking grant support to offer other dual-credit courses in Nebraska high schools. In addition to ARDC and the entomology department, other university partners in the project include the College of Agricultural Sciences and Natural Resources, the Department of Agricultural Leadership, Education and Communication; the office of Extended Education and Outreach; and the Admissions Office.

CASNR, ARDC, the entomology department and AgLec are part of the University of Nebraska's Institute of Agriculture and Natural Resources. □

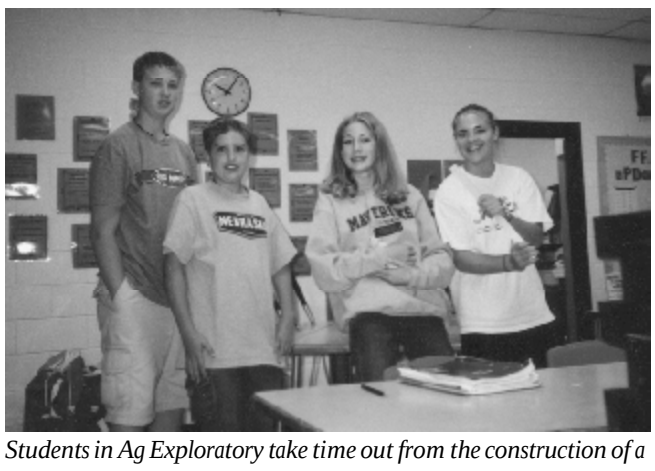
M.E.A.D.
Making Education in Agriculture Different

Magnet School UPDATES....

Rodent Invasion

The 8th grade Ag Exploratory class at Mead High School has had much excitement this quarter using an albino rat from the Lincoln Children's Zoo to conduct science inquiry learning. The program is called *Our Zoo To You*. The rat named Snickers is the first of many animals that will be calling the ag room home throughout the year. The class has been able to link many ag science concepts to the rat, especially when talking about animal science. Dan Parsons an 8th grader in the class says, "Having Snickers in the classroom has been a fun learning experience." In addition to the inquiry projects, students also take turns conducting daily chores that include using the Zoo's web site to log information and submitting a daily journal. Snickers will be heading back to the zoo in two weeks and in her place will be an anthropod critter. □

> ***"Having Snickers in the classroom has been a fun learning experience."***
> Dan Parsons, 8th Grade
> Magnet School Student



Students in Ag Exploratory take time out from the construction of a maze to pose for a picture with Snickers. From left: Nate Thorson, Dan Parsons, Jaclyn Thorson (holding Snickers), and Alicia Virgl

Saunders County 4-Hers Receive Top Honors at State Fair and Aksarben

Two Saunders County 4-Hers received top honors in with their gilts in recent swine carcass contests. Christie Jacobs won the Nebraska State Fair Swine Carcass Competition. Jacob's pig had a live weight of 269 pounds, carcass weight of 189 pounds and 65.163% lean meat. Andy Chvatal received grand champion honors at the Aksarben Livestock Expo. His pig had a live weight 238 of, carcass weight of 182 and yielded 66.27% lean meat. *Pictured: Christie Jacobs and Bob Meduna, NU Extension Educator and Andy Chvatal with his family.* □

2002 Biotechnology and the Future Grant Award

The National 4-H Council awarded the Mead Agricultural Sciences Magnet School project an annual grant of $5,000 funded by Cargill. The grants were awarded to programs that involve youth groups who are taking leadership roles and working with adult volunteer leaders in their communities. Community service will also help youth build foundation skills and workforce competencies. Youth were actively involved in writing the grant proposals and will be instrumental in project decisions, designs, and implementation.

The mission of National 4-H Council is "to advance the 4-H youth development movement, building a world in which youth and adults learn, grow, and work together as catalysts for positive change." With local 4-H staff, volunteers, 4-H'ers, and other youth programs and organizations, National 4-H Council provides "hands-on" coeducational programs and activities that involve youth as partners. National 4-H Council facilitates the establishment of youth as resources in their communities and provides leadership training and experience to ensure their success. In 2001, more than 6.8 million youth ages 5-19 were involved in 4-H programs across the United States. □

IMPACT

Why does NU Cooperative Extension hold educational field days and workshops? Check out the impact of this summer program!

CROP MANAGEMENT DIAGNOSTIC CLINICS: Five 1-day clinics and one 2-day clinic were held for the public and for private industries attracting 331 registrants from six states and 60 counties in Nebraska. Participants reported they managed/influenced production on 4,767,531 acres. Conservatively, the clinics impacted 29% of Nebraska's row crop acres. Participants estimated the value of the program at an additional $3.89 per acre bringing the estimated total value of the program to $18,521,858. 98% probably or definitely will attend future clinics based on their experience. 98% probably or definitely will recommend the clinics to others. 96% ranked the clinics as one of the best or above average compared to others they have attended. □

We've got even more impact to report... watch for this IMPACT box in upcoming issues to find out about the impact of Extension programs!

This issue of ***Extended Visions*** was produced and edited by Deloris Pittman, Marketing & Promotions Manager.
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